

## TACHINIDÆ, NEW AND OLD.

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In the following paper are included the descriptions of two new species of Tachinidæ and some miscellaneous observations upon several described genera and species. I wish to acknowledge gratefully my indebtedness to Miss A. C. Stryke, of the Department of Entomology of Cornell University, for help with the drawing of the head of *Schizotachina vitinervis*; to Dr. A. D. MacGillivray, who suggested the method of preparing accurate figures of the wings, and very patiently went over the paper with me, offering a great many useful suggestions for its improvement; and to Dr. D. W. Coquillett, who helped me out at several difficult points, and offered much valuable advice and criticism.

*Linnæmya* Desv. and *Bonnetia* Desv.

Bezzi and Stein, in their Katalog der Paläartischen Dipteren, have recognized the two genera, *Linnæmya* and *Micropalpis*. They include in the genus *Linnæmya*, *comta* Fall., and two other species. They include in the genus *Micropalpis* *hæmorrhoidalis* Fall., *vulpinus* Fall., and several other species. They apparently have overlooked the fact that Desvoidy had designated *siivestris*, a new species described by him, and now known to be the same as *vulpinus* Fall., as the type of *Linnæmya*. They were evidently also unaware of the fact that *comta* had been designated by Westwood as the type of *Micropalpis*. In other words, they have included under the generic name *Linnæmya*, the type of the genus *Micropalpis*, and under *Micropalpis* they have included the type and species belonging to the genus *Linnæmya*. *Micropalpis* was described by Macquart in 1834. The genus *Bonnetia*, described by Desvoidy in 1830, also has as type *comta* Fall., so that *Micropalpis* Macq. becomes, therefore, a synonym of *Bonnetia* Desvoidy. Mr. Coquillett has pointed this out in his paper, "The Type Species of North American Genera of Diptera."

As I have not had at my disposal specimens of many of the European species included in these two genera, nor even satisfactory descriptions of all of them, I cannot definitely say what characters have been used for their separation. So far as I can gather, *Linnæmya* includes only forms like *hæmorrhoidalis* Fall., in which only the females possess orbital bristles, while under *Bonnetia* are placed those species of which both sexes have orbital bristles. The North American representatives of the genera, including the new species of *Linnæmya* described below, may be separated as follows:

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- Cheeks bearing black bristly hairs or macrochætæ at middle ; males without orbital bristles ..... *Linnæmya* Desv.  
 Cheeks without black bristly hairs or macrochætæ at middle, with only silky, yellow pile ; males with two pairs of orbital bristles ..... *Bonnetia* Desv.

The presence of a delicate yellow pubescence on the parafacials in *B. comta* is another character which distinguishes it from the two North American species of *Linnæmya* ; in rubbed specimens, however, this pubescence is sometimes very difficult to discern. In *comta* the palpi are very small, and often partially covered by the folds of the proboscis so that only their tips are visible. The palpi of *hæmorrhoidalis* are much larger, and, in comparison with those of *comta*, quite well developed, while the palpi of the new species described below are somewhat intermediate in development between those of *hæmorrhoidalis* and *comta*. The American species of *Linnæmya* may be readily separated as follows :

- Postacrostichal bristles in three pairs ; sternopleural bristles three ; thorax and abdomen black, covered with grayish pollen, with darker reflecting spots ..... *hæmorrhoidalis* Fall.  
 Postacrostichal bristles in one pair ; sternopleural bristles four ; thorax and abdomen coal black, polished, very thinly grayish dusted ..... *anthracina*, n. sp.

*L. hæmorrhoidalis* is the species referred to in Mr. Coquillett's "Revision," p. 87, under the name *picta* Meig. The latter species is now considered by European authors to be a synonym of *hæmorrhoidalis*.

*Linnæmya anthracina*, n. sp.

Thorax, legs and abdomen black, polished, very thinly dusted with whitish pollen, the apical half of the scutellum and a small spot on the side of the second abdominal segment in the male red ; calypteres deep yellow.

Front in male about two-thirds, in female about five-sixths as wide as the eye, frontal vitta dark brown, thinly dusted with whitish pollen ; face and front black, in the male silvery-gray pollinose, in the female the pollen present on the parafrontals only on a small space above the base of the antennæ, and as a narrow strip along the margin of the eye, fading out opposite the apex of the ocellar triangle, remainder of the parafrontals polished black ; frontal bristles descending nearly to the apex of the second antennal segment, only a few fine hairs outside the frontal row in the male, in the female type three strong orbital bristles on one side, and

two, separated by a wide space, on the other; antennæ reaching at least three-quarters of the distance to the oral margin, black, including the arista, and thinly dusted with whitish pollen; second segment slightly shorter than the third; arista thickened on the basal three-fourths, its second segment a little over twice as long as wide; parafacials and cheeks thickly, the facial plate and occiput rather thinly silvery-gray pollinose, cheeks below the end of the eyes and the extreme edge of the oral margin tinged with reddish; vibrissæ situated well above the oral margin, which projects beyond the vibrissal angles for a distance greater than half the length of the second antennal segment; oral margin caudad of the vibrissæ, with a row of strong macrochætæ, facial ridges bristly on the lower fifth; width of cheeks equal to about one-half of the height of the eye, cheeks with black bristles and bristly hairs at middle; palpi small, in female type not much longer than, in male co-type about twice as long as, the greatest diameter of the mediproboscis, their surface black, thinly whitish-dusted.

Mesonotum black, appearing when viewed from above polished, appearing thinly dusted with grayish pollen when viewed from behind; pollen becoming more dense anteriorly and upon the humeri; anterior part of the mesonotum indistinctly vittate; pleura very thinly whitish-dusted; four sternopleural bristles, formula 1: 2: 1, three pairs of postsutural and but one pair of postacrostichal bristles; scutellum polished, with rather more than the apical half red, the remainder blackish, three strong marginal, a pair of weak discal, and a pair of cruciate apical macrochætæ, the latter backwardly directed; legs black, polished, thinly dusted with grayish pollen, coxæ faintly tinged with reddish, claws and pulvilli in male elongate, in female short, anterior tarsi of the female broadened and flattened, middle tibiæ with several strong macrochætæ on the front side near the middle; calypteres orange; wing venation as in *Z. hæmorrhoidalis* F., the wings grayish tinged, the veins dark brown, bordered with dilute brownish, four or five bristles at base of  $R_{4+5}$ , and the median cross-vein almost straight.

Abdomen black, polished, very thinly grayish dusted; the pollen only apparent when the specimen is viewed from behind; in the male a small spot on each side of the abdominal segment red; second segment with strong median discal and marginal macrochætæ, and third segment with median discal discals and a marginal row of macrochætæ; fourth segment rather thickly covered with macrochætæ; sides of abdomen with both discal and marginal macrochætæ, more prominent in

the female; hypopygium of male prominent, the unchitinized portions reddish tinged. Length, 9 mm.

Described from one male and one female received from Dr. C. Gordon Hewitt, Division of Entomology, C. E. F., Ottawa, Canada. Specimens bred by Mr. Arthur Gibson from larvæ of *Hyphoraia parthenos* Harris, received from Mr. H. Dawson, Hymers, Ontario, Canada. Type, the female, No. 13,387 of the United States National Museum collection. Male co-type in collection of Division of Entomology, Department of Agriculture, Dominion of Canada." This species, which is very distinct, resembles *Lydina areos* Walk. in colour characters, but it is not so highly polished.

*Schizotachina* Walk. and *Acronarista* Town.

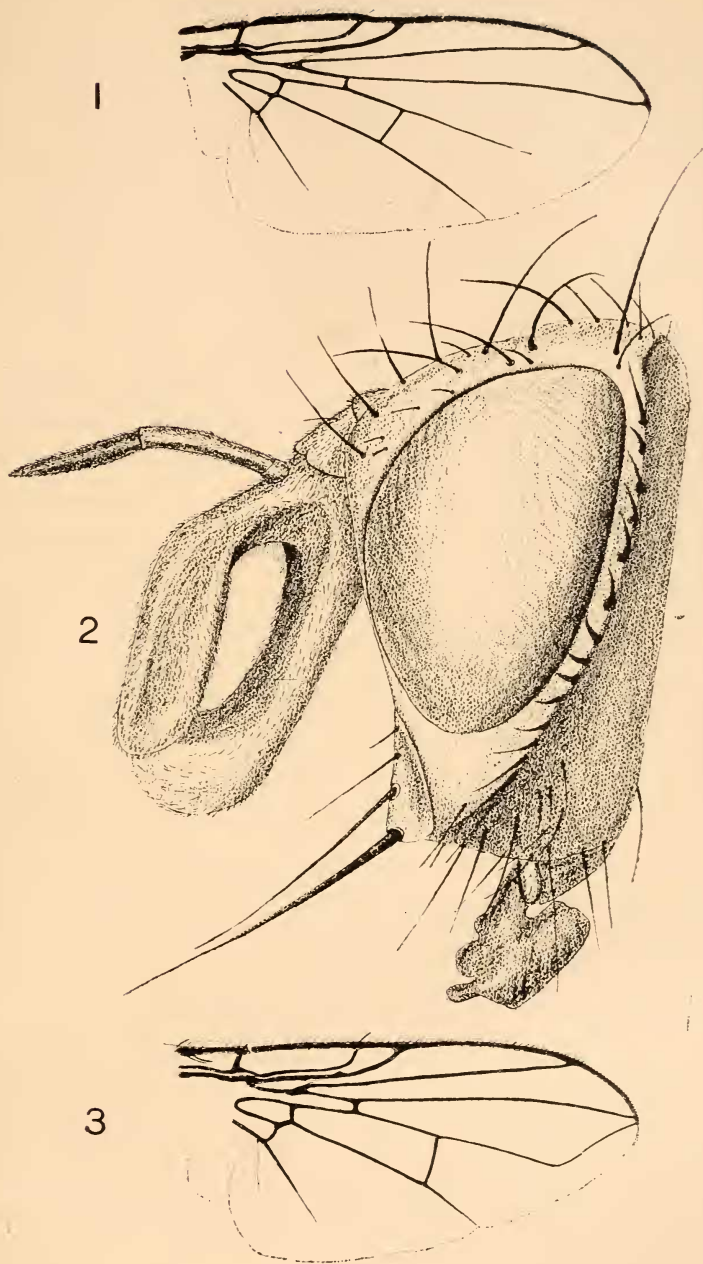
From a lot of the needles of *Pinus rigida* Mill. infested by larvæ of the Tineid *Paralechia pinifoliella* Chamb., collected by Mr. W. F. Fiske near Lowell, Mass., there issued, with some interesting hymenopterous parasites, a number of specimens of a small Tachinid. By the table to genera in Mr. Coquillett's "Revision," these specimens were determined as *Schizotachina*, but on comparison with a male specimen of *S. convecta* Walk., in the collection of the Boston Society of Natural History, they were found to differ from the latter species in having the vein  $M_{1+2}$  missing beyond the bend. The specimen of *convecta* had  $M_{1+2}$  distinct to the tip. Mr. Coquillett kindly examined the specimens in the United States National Museum collection, and found nine specimens which had been placed in the *convecta* series, having  $M_{1+2}$  obsolete beyond the bend. Since then I have examined these and find that they agree with my specimens. In all I have examined twenty-eight specimens of the form described below and six of the form which I identify as *convecta*. The species may be separated as follows:

Vein  $M_{1+2}$  distinct to the margin of the wing . . . . . *S. convecta* Walker.  
 Vein  $M_{1+2}$  missing beyond the bend . . . . . *S. vitinervis*, n. sp.

*Schizotachina vitinervis*, n. sp. (Fig. 1, wing; 2, head.)

Black, less frequently partly or largely reddish, head and thorax bluish-gray pollinose, abdomen polished, only the narrow bases of the segments white pollinose; legs somewhat polished, thinly dusted with grayish pollen; palpi yellow; third antennal segment in male divided longitudinally, in the female more or less broadened and flattened; vein  $M_{1+2}$  entirely wanting beyond the bend.

Head at least twice as broad as long, front in the male broad, at narrowest part at least one and one-half times as wide as the eye; frontal



*Schizotachina vitinervis*, n. sp.—Fig. 1, wing; fig. 2, head.  
*Schizotachina convecta*, Walk.—Fig. 3, wing.

vitta brownish, dusted with grayish pollen; two strong proclinate ocellar bristles; frontal bristles descending to insertion of arista; outside the frontal row two proclinate orbital bristles and a number of short black bristly hairs in both sexes; facial plate widening very strongly below, the parafacials at lower corner of eye almost linear; facial ridges ciliate on the lowest fourth; oral margin, cheeks and the occiput on and near the margin with black bristles; width of the cheeks less than one-half the height of the eye; head at vibrissal angles shorter than at base of antennæ; front, face, cheeks and occiput covered with bluish-gray or lead-coloured pollen; antennæ reaching to oral margin, which is not produced, second segment short, third about five or six times the length of the second segment, in the male cleft almost to the base as in *S. convecta* Walk.; the outer ramus, which bears the arista at its base, is laterally compressed and at a point about one-third of its length from the base, convex on the outer and concave on the inner edge, the lower two-thirds of the outer ramus perceptibly directed downward and inward toward the tip of the inner ramus; inner ramus rather broad, and antero-posteriorly compressed; when the antenna is retracted, the inner side of the inner ramus is closely appressed to the facial plate, and only its tip is visible from the side; inner ramus gently arcuate on its proximal three-fourths, the distal fourth bending forward, its tip reaching a little below the tip of the outer ramus, the two sometimes touching; antennæ dark brown, in some lights grayish silvery; female with the third antennal segment entire, not cleft, from one-third to about half as wide as long, more or less broadened and flattened, the lower hind corner rounded, the front corner angular, sometimes more or less projecting, the segment in some specimens more or less reddish tinged, especially along the inner border; arista basal, dark brown, with very short whitish pubescence, thickened almost to the tip, its first segment short, second segment subequal or two-thirds the length of the third; palpi varying from yellow to brownish, more or less flattened, in some specimens about half as wide as the proboscis.

Thorax in ground colour black, rarely reddish tinged. covered with bluish-gray, lead-coloured pollen, including the pleura; with two strong and two weak sternopleural bristles; with three postsuturals and one postacrostichal; the mesonotum also with numerous short suberect bristly hairs; scutellum concolorous with mesonotum; with two pairs of strong lateral and a pair of weak apical macrochætæ, and numerous strong, bristly hairs.

Legs black, rarely reddish, thinly grayish dusted; claws and pulvilli in both sexes short; hind tibiæ not ciliate, with a row of bristles of irregular length; middle tibiæ bearing a single macrochæta on the front side near the middle.

Wings hyaline, subcosta entering costa at an acute angle, third vein with a single long bristle at base, anterior end of median cross-vein at end of first third of the distance from the radio-medial cross-vein to the bend of  $M_{1+2}$ ;  $M_{1+2}$  entirely wanting beyond the bend; calypteres whitish.

Abdomen black, polished, only the narrow bases of the segments white pollinose, the fasciæ generally interrupted medially; first three segments with marginal and fourth with discal and marginal macrochætæ; abdomen with many rather strong bristly hairs, mostly appressed, when erect having in some specimens the appearance of discal bristles: hypopygium black, polished, thinly dusted with grayish pollen. Length, 2.5-3 mm.

Described from 15 males and 13 females, as follows: 1 female from Bisc. Bay, Fla., Mrs. Slosson coll.; 1 male bred by Mr. A. Busck from *Aristotelia roseosuffusella* Clemens, issued July 28, 1902; 2 males and 5 females, Nos. 16a and 16aa, labelled "par. on Tineid of *P. australis*, iss. Feb. 20, 21, 1880"; 12 males and 7 females, G. M. L., No. 2267T, bred from larvæ of *Paralechia pinifoliella* Chamb., infesting leaves of *Pinus rigida*. Material collected by Mr. W. F. Fiske near Lowell, Mass. Type, 1 male and 1 female from the last mentioned series, Gipsy Moth Lab., No. 2267T. Type No. 13398, U. S. N. M.

*Schizotachina convecta* Walker. (Fig. 3, wing.)

There seems to be no doubt that the specimens in the U. S. N. M. collection, which remain after the separation of *S. vitinervis*, represent the species described by Walker. In the wings of typical specimens the subcosta enters the costa perpendicularly, and the position and inclination of the median cross-vein are as shown in the accompanying figure; the facial ridges are strongly ciliate on almost the lower two-thirds, and the third arisal segment is twice as long as the second. However, among the half dozen specimens I have examined, I find some which have the facial ridges ciliate on only the lower third. The median cross-vein varies in position from one-third to one-half the distance from the radio-medial cross-vein to the bend of vein  $M_{1+2}$ . Vein  $M_{1+2}$  is always quite distinct to the margin of the wing, but the close relation of the species to *vitinervis* is evidenced by the fact that the part of the vein beyond the bend is weaker than the penultimate section. I have, therefore, refrained from

adding a new genus for the reception of *vitinervis* to the already too long array of Tachinid genera.

There are no definite host records for *convecta*. One specimen, G. M. L., No. 2152E, June 29, '10, bred at the Gipsy Moth Parasite Laboratory, issued from a box of material from which an adult of *Tortrix albicomana* Clem. afterward emerged, and it is possible that the Tachinid developed in another larva of the same Tortricid.

The determinations of the microlepidopterous hosts are by Mr. August Busck, to whom I am much indebted.

(To be continued.)

### A NEW PSENIID WASP FROM PERU.

BY T. D. A. COCKERELL, BOULDER, COLO.

*Psenulus (Neofoxia) Townsendi*, new species.

Piura, Peru, April 2nd, 1911. (C. H. T. Townsend).

♀.—Length a little over 6 mm.; black, with the second abdominal segment above and below, and the third (except a broad apical triangle of black above, nearly reaching basal middle) bright ferruginous; extreme apex of first segment also red at sides; inner orbital margins strongly convex; face covered with silvery hair; scape black; flagellum pale, dull reddish beneath, strongly infuscated above, not so robust as in *M. Eressoni* Packard; vertex shining; cheeks with silvery hair; mesothorax shining, minutely and sparsely punctured; scutellum very smooth and shining; postscutellum with brilliant silvery hair; area of metathorax triangular, with a few ridges, the same kind of sculpture continued on sides of metathorax; mesopleura with silvery hair; tegulæ pale yellowish; wings hyaline, very iridescent; *second r. n. meeting second t. c.; submedian cell of hind wings squarely truncate at end*; knees, anterior tibiæ, hind tibiæ broadly at base and narrowly at apex, and the tarsi, pale ferruginous; petiole of first abdominal segment rather short.

♂.—Flagellum long and slender; abdomen long and cylindrical, black, with the second segment at apex, and the third and fourth slightly, ferruginous. Easily known from *P. medius* Smith by the sparsely punctured thorax.

*Type*.—Cat. No. 14096, U. S. Nat. Mus.

[This species belongs to the group of Nearctic species, composed of *tibialis* Cresson, *suffusa* Fox and *Sayi* Rohwer, which is characterized by the narrow pygidium, no tubercle between the bases of the antennæ, slender petiole, which is nearly as long or longer than the rest of the first segment. (S. A. Rohwer.)]

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